

**3.**

**2.**

**Group number**

* The number of valence electrons in each atom of every element in that group (column)
* *Groups 13 through 18 have* ***10 less*** *valence electrons that the group number.*

**Period number**

* The number of energy levels containing electrons for every element in that period (row)

2 energy levels

6 total electrons

4 valence electrons

2 energy levels

3 total electrons

1 valence electron

* The atomic number for carbon is 6 so we know it has 6 electrons.
* Carbon is in period 2 so we know it has 2 energy levels (shells).
* Carbon is in group 14 so we know it has 4 valence electrons.

Let’s make a model:

**Let’s look at two examples: Li (lithium) and C (carbon)**

* The atomic number of lithium is 3 so we know it has 3 electrons.
* Lithium is in period 2 so we know it has 2 energy levels (shells).
* Lithium is in group 1 so we know it has 1 valence electron.

Let’s make a model:

Every group and period is numbered. This number has a special meaning that can help you when trying to understand the structure of an atom.

Elements are arranged in columns and rows.

* Columns are vertical (up and down)
  + Also called *groups*
* Rows are horizontal (left to right)
  + Also called *periods*

**1.**

If I’m building a model of an atom, how do I know it’s right?

**The answer is in the periodic table!**